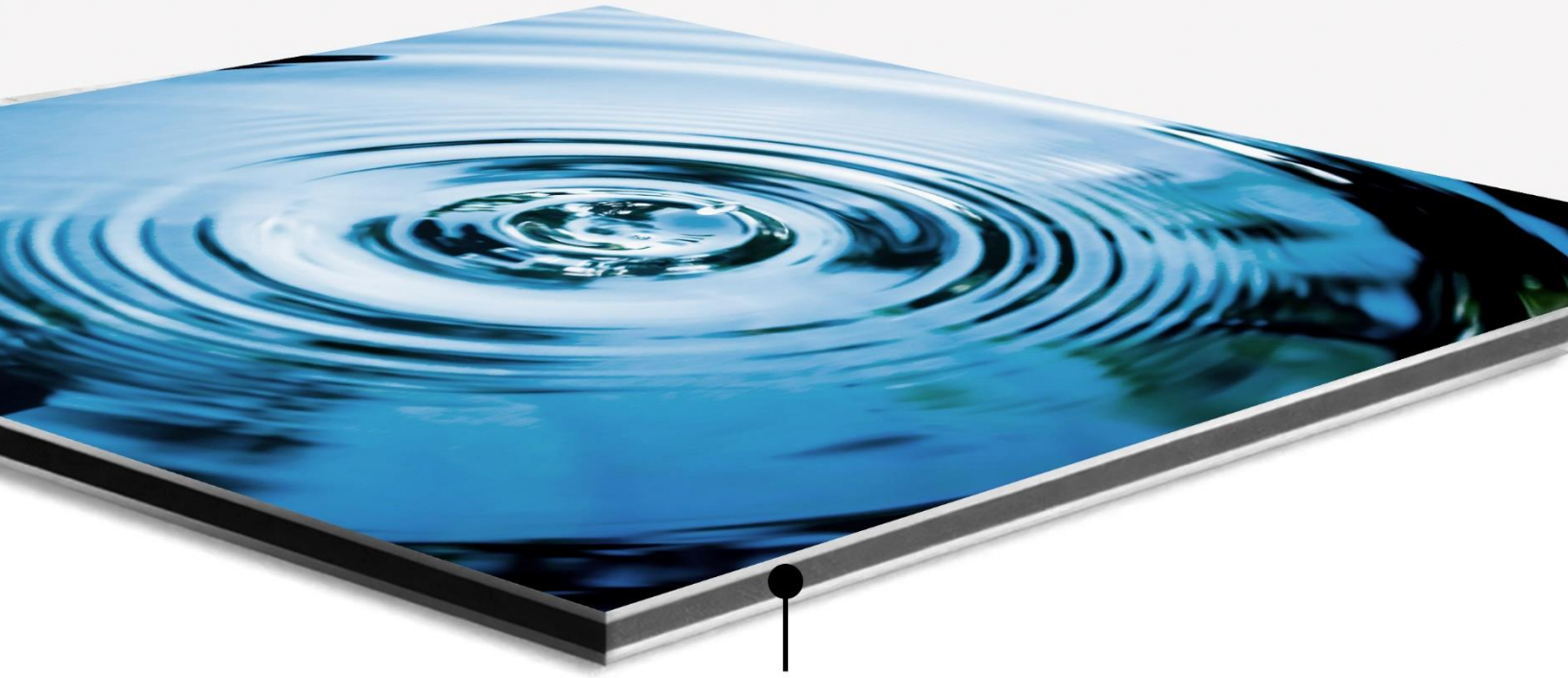
COMPOSI

Impermeable: Waterproof Performance



Polyethylene Core

3 MM

Technical Document ACM-B2 (PE)

MURALUXE.CA

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Muraluxe COMPOSI ACM-B2 (PE)

1. Preamble

Muraluxe **COMPOSI ACM-B2 (PE)** architectural panels stand out for their quality, durability, and performance, comparable to traditional tiles yet available in larger formats. Manufactured through strict processes, these panels ensure flawless finishes and top-tier technical characteristics, positioning them as a premium material ideal for shower applications. With their large format, these innovative panels combine aesthetics and functionality, offering great creative freedom without compromising quality.

2. Muraluxe R&D

Muraluxe Inc. is a North American-recognized company based in Trois-Rivières, Quebec, Canada, specializing in the design and manufacturing of custom architectural panels. Through continuous production and lacquering technology, Muraluxe ensures tailor-made solutions that meet the industry's most demanding standards. Additionally, Muraluxe dedicates substantial efforts to research and development, consistently innovating to enhance its products and meet the evolving needs of the market. This proactive approach allows the company to stay at the forefront of the industry, providing innovative and sustainable solutions to its clients.

The **COMPOSI ACM-B2 (PE)** product is an important material in the custom coating sector due to its impermeable nature. Using **COMPOSI ACM-B2 (PE)** panels in showers offers several technical and aesthetic advantages, making them a preferred choice:

- **Moisture Resistance:** These panels are designed to withstand humidity and splashes, making them ideal for environments constantly exposed to water, such as showers.
- **Waterproofing and Hygiene:** Unlike traditional tiles that require grout joints prone to deterioration or mold growth, the large-format panels minimize the number of seams, ensuring better waterproofing and easier maintenance.
- **Impermeability:** **A material that completely prevents water from penetrating, even under pressure or prolonged immersion. It is designed to block water, making it suitable for environments where full protection against water is essential.**

- **Increased Durability:** Made from aluminum composite materials with a polyethylene core, these panels are highly resistant to impacts, wear, and fading, ensuring a long lifespan even under frequent use.
- **Simplified Installation:** Thanks to their larger size and lightweight nature, these panels allow for quicker and more even installation, reducing installation time compared to traditional tiles.
- **Customizable Aesthetics:** Their large surface area provides a more uniform and elegant visual effect without the interruption of grout lines, offering a sleek design in showers.

In summary, **COMPOSI ACM-B2 (PE)** panels combine functionality and aesthetics, perfectly meeting the specific requirements of showers. They also bring a customizable dimension and a clean design.

3. Composition and Technology

The **COMPOSI ACM-B2 (PE**) panel is designed with a sandwich-style structure, integrating:

- **Two anti-corrosion aluminum sheets:** These 0.3 mm outer layers provide exceptional durability and effective protection against weather conditions. The PVDF treatment also ensures corrosion resistance and optimal adhesion for our customization.
- **A 2.4 mm polyethylene core:** This material combines lightness and strength, providing the panel with impermeable properties due to its non-porous structure that blocks any water penetration, even under pressure or during prolonged exposure. Its composition also ensures excellent structural stability.

The combination of these elements forms a 3 mm thick sandwich panel, ensuring robustness, safety, and durability, making it ideal for demanding environments.

4. Technical Specifications

Standard Dimensions: Up to 72" x 120" (1829 mm x 3048 mm), allowing great flexibility in architectural applications.

Customization: Each panel can be fully customized to meet the aesthetic and functional specifications of your project.

Main Applications: These panels are designed for use as wall coverings in showers, kitchen backsplashes, interior and exterior accent walls, as well as in commercial, industrial, and institutional projects. They are also available as pre-assembled shower kits for easier installation.

Protective Finish: An exclusive liquid layer (Top Coat), specially designed for Muraluxe, provides UV and chemical protection, ensuring exceptional durability. It also offers level 10 antifungal resistance, ideal for school, hospital, and medical environments. Three finish options are available:

- **Matte:** This absorbent finish offers a refined, elegant look, reducing reflections and masking imperfections.
- **Satin:** Providing a balance between gloss and natural appearance, the satin finish has a soft sheen.
- **Glossy:** This high-gloss finish creates a mirror effect, adding brightness and depth to surfaces.

These three options allow clients to customize the appearance of their panels while benefiting from Muraluxe's protection and durability.

Note: For more information, please refer to the technical document titled *Muraluxe_Top-Coat_technical-document_EN.*

Property	Result	Standard
Heat Resistance	Up to 120°C	UNE-EN13501
Vapor Resistance	Excellent	ASTM D3273
Corrosion Resistance	High-performance anti-corrosion treatment	ASTM B117
UV Durability	Tested for long-term exposure	ASTM G154
Immersion Resistance	100% waterproof	ASTM D570
Impact Resistance	High resistance	UNE-EN 438-2

5. Fire Safety Standards and Resistance

The **COMPOSI ACM-B2 (PE)** panels comply with fire safety standards (UNE-EN 13501-1) for B2 classification:

- **Flame Propagation Index:** Higher than that of class A2, but with limited flame propagation.
- **Fire Rating: B2-s1, d0 (EN 13501-1**)
  - **B2:** A material designed to slow down or prevent the spread of fire.
  - **s1:** Very low smoke emission, minimizing risks in indoor spaces.
  - **d0:** Absence of flaming droplets or particles, providing enhanced safety for indoor applications.

6. Applications

Muraluxe's **COMPOSI ACM-B2 (PE)** panels are ideal for a wide range of architectural applications:

- **Shower Cladding:** Thanks to their impermeability and excellent resistance to chemicals, these panels are ideally suited for shower environments, ensuring both safety and aesthetics.
- **Interior Cladding:** Their durability and resistance to fading make them a perfect choice for interior walls, while offering complete customization options to harmonize with any decor style.
- **Commercial Architecture Projects:** Ideal for spaces where design must meet high safety standards, such as hotels, spas, and public facilities.

7. Installation

The installation of **COMPOSI ACM-B2 (PE)** panels is facilitated by their lightweight and durable design. Here are some technical recommendations to ensure optimal installation:

- **Indoor Installation:**
  - **Fasteners:** It is recommended to use translucent silicone or adhesive mortar. Muraluxe's COMPOSI panels are compatible with all products from the *Schluter* brand.
  - **Substructure:** It is crucial to have one of the following substructures when installing panels as shower wall cladding: moisture-resistant gypsum, fiber cement, liquid waterproofing membrane, or a *Schluter* membrane or *Kerdi-Board*. For installation as an accent wall, if the location does not require a moisture-resistant substrate, standard gypsum is acceptable.
  - **On-Site Adjustements:** The panels can be easily cut and adjusted on-site while maintaining their fire-resistant properties.
- **Outdoor Installation:**
  - **Fasteners:** Follow the specific recommendations of the architect or engineer to ensure compliance with standards.
  - **Ventilated Substructure:** Adhere to the architect or engineer's specific guidelines to ensure proper ventilation and optimal installation.
  - **On-Site Adjustements:** The panels can be cut and adjusted directly on-site while preserving their fire-resistant properties.

8. Product Advantages

- **Durability:** These panels offer remarkable resistance to water, soap, chemicals, corrosion, weather, and impact, ensuring exceptional longevity.
- **Customization:** The surface of the panels can be printed with a variety of patterns, providing great design flexibility while maintaining high performance.
- **Lightweight:** Compared to other materials such as marble, stone, or ceramic, COMPOSI panels are significantly lighter, simplifying transportation and installation.
- **Maintenance:** Thanks to their protective finish, cleaning is easy and superior to that of other materials available on the market. A simple soap and water solution along with a microfiber cloth is all that is needed for maintenance.

ANNEX (Table of Properties)

Properties	Standard	Unit/Ref	COMPOSI 3mm
Main Properties			
Thickness of Polyethylene Core	.....	mm	2.4
Thickness of Aluminum Layer	.....	mm	0.3
Weight	.....	+/- 0.5 kg/m^2	3.91
Standard Width	.....	mm	1829
Standard Length	.....	mm	3048
Mechanical Properties			
Tensile Yield Strength	ASTM D638	PSI	5580
Ultimate Strength	ASTM D638	PSI	6220
Elongation	ASTM D638	%	12
Ultimate Flexural Strength	ASTM D790	PSI	15050
Flexural Modulus	ASTM D790	KSI	1430
Flat Compression	ASTM C365	PSI	739
Shear Strength	ASTM C273	PSI	1030
Technical Properties			
Thermal Conductivity (K)	ASTM C177	BTU-in/ hr.ft2-°F	1.221
Thermal Conductivity (R)	ASTM C177	BTU-in/ hr.ft2-°F	0.097
Deflection Temperature	ASTM C518	°C	150.6
Impermeability			
Impermeability	ASTM D570	% of mass absorbed	Water absorption ≤ 0.1%
Water Penetration	ASTM E331	% of water penetrated	No water penetration
Fire Performance			
Fire Reaction	EN 13501-1		B2, s1, d0

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